

TRI Releases, Transfers and Waste Management, Original Industries for 1988-1998

	1988 Number	1995 Number	1996 Number	1997 Number	1998 Number	Change 1988-1998	
						Number	Percent
Total Facilities	20,470	20,783	20,380	19,999	19,610	-860	-4.2
Total Forms	62,826	63,161	61,636	61,213	60,252	-2,574	-4.1
Form Rs	62,826	57,813	55,546	52,554	51,480	--	--
Form As	--	5,348	6,090	8,659	8,772	--	--
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Percent
On-site Releases							
Total Air Emissions	2,182,565,290	1,201,484,542	1,104,879,205	986,118,909	920,705,030	-1,261,860,260	-57.8
Fugitive Air Emissions	681,200,525	306,608,931	270,369,623	242,048,463	216,215,438	-464,985,087	-68.3
Point Source Air Emissions	1,501,364,765	894,875,611	834,509,582	744,070,446	704,489,592	-796,875,173	-53.1
Surface Water Discharges	164,566,331	37,178,869	44,607,289	61,601,861	44,660,053	-119,906,278	-72.9
Underground Injection	161,969,122	142,514,672	122,769,454	131,462,206	114,554,014	-47,415,108	-29.3
On-site Land Releases	459,273,405	306,589,692	325,331,861	342,010,439	347,031,866	-112,241,539	-24.4
Total On-site Releases	2,968,374,148	1,687,767,775	1,597,587,809	1,521,193,415	1,426,950,963	-1,541,423,185	-51.9
Off-site Releases							
Storage Only*	13,841,320	2,233,367	1,236,411	6,324,984	11,228,031	-2,613,289	-18.9
Solidification/Stabilization -**	29,540,884	26,723,956	59,253,534	144,626,202	136,998,955	107,458,071	363.8
Metals and Metal Compounds Only							
Wastewater Treatment (excluding POTWs) -***	4,647,706	3,740,028	3,751,119	5,417,580	4,080,969	-566,737	-12.2
Metals and Metal Compounds Only							
Transfers to POTWs -****	9,587,698	2,542,345	2,448,282	2,450,875	3,045,974	-6,541,724	-68.2
Metals and Metal Compounds Only							
Underground injection	8,962,004	12,531,911	9,046,874	10,834,074	13,274,293	4,312,289	48.1
Landfills/Surface Impoundments	267,252,441	211,887,103	223,246,208	233,850,749	222,761,082	-44,491,359	-16.6
Land Treatment	2,785,480	1,137,699	546,817	650,128	584,785	-2,200,695	-79.0
Other Land Disposal	9,646,794	11,632,875	6,176,823	9,115,316	13,287,506	3,640,712	37.7
Other Off-site Management	39,569,635	10,871,972	9,345,011	10,061,063	8,559,942	-31,009,693	-78.4
Transfers to Waste Broker for Disposal	30,402,269	4,562,335	4,368,125	7,241,334	12,446,486	-17,955,783	-59.1
Unknown*****	11,773,104	1,541,114	1,514,421	2,213,534	3,716,205	-8,056,899	-68.4
Total Off-site Releases (Transfers Off-site to Disposal)	428,009,335	289,404,705	320,933,625	432,785,839	429,984,228	1,974,893	0.5
Total On- and Off-site Releases	3,396,383,483	1,977,172,480	1,918,521,434	1,953,979,254	1,856,935,191	-1,539,448,292	-45.3
Transfers Off-site for Further Waste Management							
Transfers to Recycling	--	2,212,526,603	2,154,377,003	2,144,323,655	1,945,915,206	--	--
Transfers to Energy Recovery	--	489,574,529	447,276,376	469,573,955	435,696,242	--	--
Transfers to Treatment	334,988,922	201,332,079	185,703,380	218,630,560	210,813,755	-124,175,167	-37.1
Transfers to POTWs	245,419,292	151,319,024	139,035,489	156,884,773	146,112,643	-99,306,649	-40.5
Other Off-site Transfers*****	43,502,294	2,223,695	817,770	34,528	917,840	-42,584,454	-97.9
Total Transfers Off-site for Further Waste Management	--	3,056,975,930	2,927,210,018	2,989,447,471	2,739,455,686	--	--
Waste Management							
Recycled On-site	--	6,266,433,735	6,439,784,593	6,776,028,076	7,808,090,655	--	--
Recycled Off-site	--	2,296,479,187	2,196,624,726	2,155,792,100	2,016,895,662	--	--
Energy Recovery On-site	--	2,590,813,050	2,550,169,039	2,553,304,855	2,618,126,725	--	--
Energy Recovery Off-site	--	477,437,950	486,036,596	483,997,508	443,030,841	--	--
Treated On-site	--	4,521,301,770	4,222,748,199	4,345,880,640	4,457,491,546	--	--
Treated Off-site	--	399,276,776	364,182,972	377,251,019	387,845,187	--	--
Quantity Released On- and Off-site	--	1,901,508,970	1,842,459,683	1,865,247,145	1,810,695,159	--	--
Total Production-related Waste	--	18,453,251,438	18,102,005,808	18,557,501,343	19,542,175,775	--	--
Non-Production-related Waste	--	31,402,801	24,300,165	32,525,531	25,278,322	--	--

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid and sulfuric acid.

On-site Releases from Section 5 of Form R. **Off-site Releases** are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Total Transfers Off-site for Further Waste Management from Section 6 (excluding transfers off-site to disposal) of Form R.

Waste Management data from Section 8.

For 1998, facilities/forms are included in the original industry category if they did not report a new industry SIC code.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

One facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years has been included in the new industry category SIC code 10 for 1998 for the purpose of this analysis.

* "Storage only" (disposal code M10) indicates that the toxic chemical is sent off-site for storage because there is no known disposal method. Amounts reported as transferred to "storage only" are included as a form of disposal (off-site release).

** Beginning in reporting year 1997, transfers to solidification/stabilization of metals and metal compounds (waste treatment code M41) are reported separately from transfers to solidification/stabilization of non-metal TRI chemicals (waste treatment code M40). Because this treatment method prepares a metal for disposal, but does not destroy it, such transfers are included as a form of disposal (off-site release). Reports under code M40 of metals and metal compounds have been included in solidification/stabilization of metals and metal compounds in this report.

*** Beginning in reporting year 1997, transfers to wastewater treatment (excluding POTWs) of metals and metal compounds (waste treatment code M61) are reported separately from transfers to wastewater treatment of non-metal TRI chemicals (waste treatment code M60). Because wastewater treatment does not destroy metals, such transfers are included as a form of disposal (off-site release). Transfers of metals and metal compounds reported under code M60 have been included in transfers of metals metal compounds to wastewater treatment.

**** Reported as discharges to POTWs in Section 6.1 of Form R. EPA considers transfers of metals and metal compounds to POTWs as an off-site release because sewage treatment does not destroy the metal content of the waste material.

***** "Unknown" (disposal code M99) indicates that a facility is not aware of the type of waste management used for the toxic chemical that is sent off-site. Amounts reported as "unknown" transfers are treated as a form of disposal (off-site release).

***** Other Off-site Transfers are transfers reported without a valid waste management code.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.